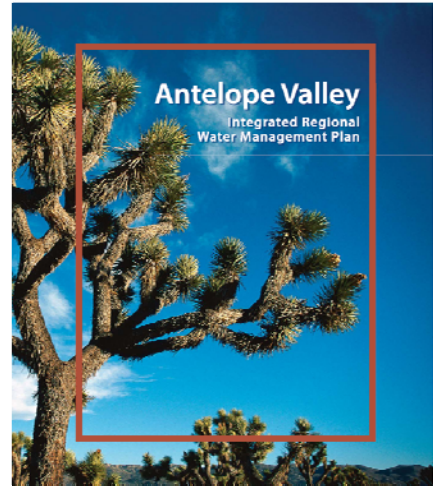


Antelope Valley Integrated Regional Water Management Planning Grant Proposal

Attachment 3. Work Plan

This work plan describes the process that the Antelope Valley Regional Water Management Group (AVRWMG), and the stakeholders it represents, will undertake to accomplish the following:

- **Move forward its 2007 Integrated Regional Water Management (IRWM) Plan** – This activity would entail moving forward with filling critical gaps identified through its IRWM process in support of much needed water resources projects implementation. These critical gaps include further evaluating DAC water supply, water quality and flooding issues, preparing a Salt and Nutrient Management Plan, completing a Climate Change Analysis, and developing an Integrated Flood Management Plan.
- **Complete its IRWM Plan Update** – This activity would entail bringing the 2007 IRWM Plan in line with the latest State's IRWM Plan standards.



A IRWMP planning grant funded by Proposition 84 would allow Antelope Valley stakeholders to start filling in critical gaps identified through its 2007 IRWM process in support for water resources projects implementation, including preparation of a Salt and Nutrient Management Plan and development of an Integrated Flood Management Plan.

Attachment 3 is organized as follows:

- **Background Setting** – This section provides the history of the IRWM planning process in Antelope Valley and the context of the work plan.
- **Work Plan Content** – This section describes the specific tasks that will be performed as part of the proposal. These tasks are consistent with the budget and schedule provided in Attachment 4 and Attachment 5, respectively. One of these tasks is specifically geared towards facilitating and supporting involvement of DACs in the IRWMP planning effort.
- **Program Preferences** – This section summarizes to what extent the work plan addresses each IRWM Program Preference.

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A table of content is provided below for ease of reference.

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I. Background Setting

In 2005, a broad group of local agencies and stakeholders initiated an integrated regional water management planning effort in recognition of the pressing water resources management needs to ensure the sustainability of the Antelope Valley. This effort was undertaken and financed solely by agencies local to the Antelope Valley and did not involve funding from Proposition 50 for IRWM planning.

Table 1 summarizes key activities and milestones that have taken place since that time.

**Table 1: Integrated Regional Water Management
Planning and Implementation Activities Summary**

TIMELINE	KEY MILESTONES
2005	Formation of AVRWMG
August 2007	Proposition 50 Grant Application for priority projects implementation (unsuccessful)
December 2007 & January 2008	Adoption of the 2007 IRWM Plan
April 2009	Agreement on the Implementation of the Integrated Regional Water Management Plan
April 2009	Successful Regional Acceptance Process application for the Antelope Valley Region
August 2009	Initiated Salt and Nutrient Management Planning Efforts
September 2009	Initiated Regional Urban Water Management Planning Effort
September 2010	Proposition 84 Planning Grant Application (this application) to support next sets of implementation activities, including climate change analysis, and flood management plan development.

Additional background on the water resources management needs of the Valley, activities listed in Table 1 and other topics as requested in the proposal solicitation package are provided in this section, based in large part on the 2007 IRWM Plan.

Further background information can be accessed through the Antelope Valley IRWM website at www.avwaterplan.org

The work plan presented in Section II was designed to allow the AVRWMG to move forward with the next logical set of planning and implementation activities.

A. Regional Water Management Group

The key groups involved in the Antelope Valley Integrated Regional Water Management (IRWM) Plan development and implementation are:

- **Antelope Valley Regional Water Management Group (RWMG)** – The RWMG is the body of 12 agencies that have signed the MOU for implementing the IRWM Plan. They are the agencies committed to implementing the Plan and updating it accordingly. This group hardly ever meets separately from stakeholders – only when there is a procedural issue that does not affect the entire AVIRM Stakeholder Group.
- **Antelope Valley IRWM Plan Stakeholder Group (Stakeholder Group)** – The Stakeholder Group meets, currently, on a quarterly basis to receive updates on the implementation of the IRWMP. All decisions are made within this group.
- **Advisory Team to the IRWM Stakeholder Group (A-Team)** – This is the group that facilitates implementation of the AVIRWM Plan by providing recommendations for the Stakeholder Group and the RWMG.

This section provides a description of the RWMG. The Stakeholder Group is discussed in **Section I.D.** and the A-Team is discussed in **Section I.J.** These groups have continued to meet on a regular basis since the IRWM Plan was adopted in January 2008. They will continue to do so to oversee and participate in the updates to the IRWM Plan proposed in the work plan (**Section II**).

The RWMG was originally formed through a Memorandum of Understanding (MOU) that prescribed the preliminary roles and responsibilities for the RWMG including complying with the IRWM Plan sections of the Water Code. The RWMG agreed to contribute funds to help develop the IRWM Plan, provide and share information, review and comment on drafts of the IRWM Plan, and adopt the final IRWM Plan. Since the adoption of the IRWM Plan in December of 2007 and January of 2008, an Agreement on the Implementation of the Integrated Regional Water Management Plan (Agreement) among the RWMG has been developed to include the implementation roles and responsibilities identified for governance of the IRWM Plan.

The RWMG members are listed in **Table 2** along with a description of how each agency is responsible for statutory authority over water supply or water management within the Antelope Valley Region by noting whether the agency has authority. All agencies listed in Table 2 have adopted the Agreement and participate in the financing and governance of IRWM Plan implementation. The composition of the RWMG provides a good cross-sectional representation of all water/natural resource and land-use management activities for the Antelope Valley Region. There are however a number of small mutual water companies and municipalities within the Region that have statutory authority over water supply and water management who are not

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currently members of the RWMG, but they are part of the Antelope Valley IRWM Stakeholder Group (see Section I.D).

Table 2: Roles and Responsibilities of the Regional Water Management Group

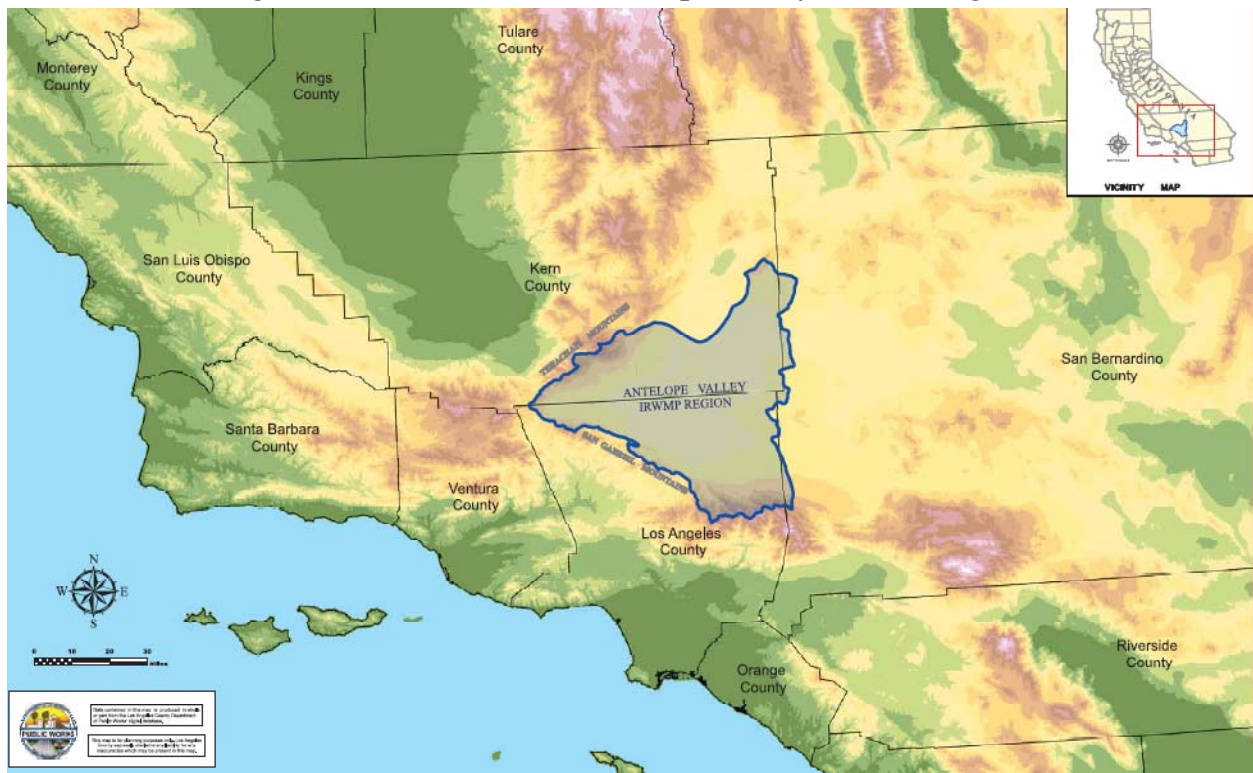
AGENCY	ROLES AND RESPONSIBILITY	STATUTORY AUTHORITY OVER WATER SUPPLY OR WATER MANAGEMENT
AVEK	Wholesaler of imported water to the Antelope Valley Region	Water supply, water quality management
AVSWCA	Members provide imported water to Antelope Valley	Water supply
City of Lancaster	Incorporated Municipal government that provides land-use planning, environmental, flood management, public works services, and parks and recreation services	Water supply, water quality management, flood management/control, storm water management, wastewater collection
City of Palmdale	Incorporated Municipal government that provides land-use planning, environmental, flood management, public works services, and parks and recreation services	Water supply, water quality management, flood management/control, storm water management, wastewater collection
Los Angeles County	County government that provides environmental and land use planning as well as permitting and planning for future domestic water supply projects	Flood management, storm water management
LCID	Supplies surface and imported water to the Antelope Valley Region	Water supply
LACSD 14	Provides collection and treatment of wastewater and supplies recycled water to portions of the Antelope Valley Region	Water quality management, recycled water supply, wastewater treatment
LACSD 20	Provides collection and treatment of wastewater and supplies recycled water to portions of the Antelope Valley Region	Water quality management, recycled water supply, wastewater treatment
LACWWD 40	Supplies water to portions of Los Angeles County	Water supply
PWD	Supplies water to portions of Palmdale and adjacent unincorporated areas of Los Angeles County	Water quality management, water supply
QHWD	Supplies water to portions of the southwest end of Antelope Valley	Water quality management, water supply
RCSD	Supplies water to portions of unincorporated Kern County	Water quality management, water supply

Source: 2007 IRWM Plan

B. Antelope Valley IRWM Region

The Antelope Valley Region of California is home to over 444,000 people living in many different communities (see **Figure 1**). Residents within this Region have experienced tremendous changes over the past generation due to a rapid increase in population coming from nearby large cities. Current forecasts of population growth suggest even larger changes will occur before 2035. Water plays a central role in the health and well being of all residents within the Antelope Valley Region. People use water for drinking, bathing, household and outdoor activities, agriculture, business endeavors, recreation, and to sustain and enhance natural habitats. This common need for water links communities together in many ways. When anyone uses water, the ability of other people to use water within the Antelope Valley Region can be affected.

Figure 1: Location of the Antelope Valley IRWM Region



The Antelope Valley Region encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. Major communities within the Antelope Valley Region include Boron, California City, Edwards Air Force Base, Lancaster, Mojave, Palmdale and Rosamond.

All of the water currently used in the Antelope Valley Region currently comes from two sources:

- **Naturally occurring water within the Antelope Valley Region (surface water and groundwater accumulated from rain and snow that falls in the Antelope Valley and surrounding mountains), and**
- **State Water Project water (surface water that is collected in northern California and imported into the Antelope Valley and other areas around the state).**

The number of residents within the Antelope Valley Region expanded more than 330 percent between 1970 and 2005, growing from 103,000 people in 1970 to 444,000 people in 2005. Forecasters expect the population to continue to swell due to its proximity to the metropolitan Los Angeles area, potentially reaching 1,174,000 residents by the year 2035. As the number of people living and working in the Antelope Valley Region increases, the competition for water supply increases, and the challenge of maintaining good water quality and managing the interconnected water cycle becomes more difficult. These issues are further exacerbated by reliability issues of the State Water Project upon which the Antelope Valley current relies heavily for water supply.

Creation of a proactive, “smart” design for the Antelope Valley Region makes the IRWM Plan essential to efficient and effective water management.

C. 2007 IRWM Plan

The Antelope Valley IRWM Plan was completed and adopted in December of 2007 and January of 2008 by the AVRWMG. The objectives of the AVIRWM Plan were broken into five categories: water supply management, water quality management, flood management, environmental resource management, and land use planning/management. **Table 3** lists the established objectives for each category.

Table 3: AVIRWM Plan Objectives

CATEGORY	OBJECTIVES
Water Supply Management	<ul style="list-style-type: none">○ Provide reliable water supply to meet the Antelope Valley Region's expected demand between now and 2035.○ Establish a contingency plan to meet water supply needs of the Antelope Valley Region during a plausible disruption of SWP water deliveries.○ Demonstrate ability to meet regional water demands without receiving SWP water for six months over the summer, by June 2010.
Water Quality Management	<ul style="list-style-type: none">○ Provide drinking water that meets customer expectations.○ Protect aquifer from contamination.○ Protect natural streams and recharge areas from contamination.○ Maximize beneficial use of recycled water.
Flood Management	<ul style="list-style-type: none">○ Reduce negative impacts of stormwater, urban runoff, and nuisance water.
Environmental Resource Management	<ul style="list-style-type: none">○ Preserve open space and natural habitats that protect and enhance water resources and species in the Antelope Valley Region.
Land Use Planning/Management	<ul style="list-style-type: none">○ Maintain agricultural land use within the Antelope Valley Region.○ Meet growing demand for recreational space.○ Improve integrated land use planning to support water management.

Source: 2007 IRWM Plan

Table 4 identifies some of the critical gaps in achieving the identified AVIRWM objectives and proposed strategies to bridge these gaps that provided the basis for developing the proposed work plan presented in Section II.

Table 4: AVIRWM Critical Gaps and Proposed Strategies
Relevant to the Proposed Work Plan

CATEGORY	GAPS	PROPOSED STRATEGIES
Water Supply and Water Quality Management	<ul style="list-style-type: none">○ Unknowns associated with climate change impacts on SWP availability, runoff, etc. and, in turn, water supply needs and strategies.	<ul style="list-style-type: none">○ Conduct climate change analysis to confirm importance of groundwater banking initiative in adapting to climate change and support other water resources management activities, including flood management planning.
	<ul style="list-style-type: none">○ Basis for evaluating feasibility and sustainability of groundwater banking with imported water and/or recycled water as part of the water resources management strategies	<ul style="list-style-type: none">○ Prepare a Salt and Nutrient Management Plan to support sustainability evaluation.
Flood Management	<ul style="list-style-type: none">○ No existing prioritized list of flood management projects and/or clear funding mechanism to reduce negative impacts of stormwater, urban runoff, and nuisance water.	<ul style="list-style-type: none">○ Prepare a detailed Regional Flood Management Plan, including potential organizational and funding structure for regional flood management entity.

Source: Adapted from 2007 IRWM Plan and supporting documentation including 2007 Groundwater Recharge Feasibility Study

D. Stakeholder Identification and Involvement

Over 40 stakeholder groups that represent various water management interests participated in the original development of the IRWM Plan and continue to be involved today. Together they constitute the Antelope Valley IRWM Stakeholder Group. They will be notified of the Region's plans to update the IRWM Plan and be invited to participate in that process (see **Task 1** of **Section II**).

1. Identification

Table 5 provides a list of all of the Stakeholders that were involved in the original development of the Antelope Valley IRWM Plan. These various interests provide the representation needed in order to address the objectives and strategies in the Plan. They are grouped into several categories per CWC §10541(g) and their roles in the planning process are briefly described below in addition to noting if they have statutory authority over water supply and/or water management. A brief discussion of coordination efforts with local planning, State, and Federal agencies is also provided where appropriate.

a) Wholesale and Retail Water Purveyors/Wastewater Agencies/Flood Management Agencies/Special Districts

The wholesale and retail water purveyors, wastewater agencies, flood management agencies, and special districts of the Antelope Valley IRWM Plan Region were involved in the development and implementation of the objectives and projects for the IRWM Plan and will continue to be through the update of the IRWM Plan. Their participation is focused particularly on the water supply (see **Figure 2**) and flood management issues pertaining to the Region. These agencies include the State Water Project Contractors that provide distribution of SWP water to the Antelope Valley: AVEK, LCID, and PWD. The retail water purveyors include agencies that have water management responsibilities in the Antelope Valley Region and include: LACWWD 40, QHWD, Palm Ranch Irrigation District, the City of Lancaster for recycled water, and RCSD. There are also several mutual water companies in the Antelope Valley that provide water-related services to the Antelope Valley Region. The Los Angeles County Department of Public Works, who has flood management responsibilities in other portions of Los Angeles County, participated in some of the Stakeholder Group meetings. However, their current flood management jurisdiction does not include the Antelope Valley. For the IRWM Plan update, they will play an advisory role on **Task 2.3 (Integrated Flood Management)** detailed in **Section II**.

b) Municipal and County Governments and Special Districts

Municipal and county governments and special districts include local jurisdictions and land use planning agencies that were involved in the identification of issues, formation of objectives, and development of projects of the IRWM Plan. Their participation provides a link between local planning agencies and this IRWM Plan by offering discussion in meetings, providing accurate, consistent land use planning information, and incorporating local planning documents and goals into the project objectives.

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Table 5: Stakeholder List

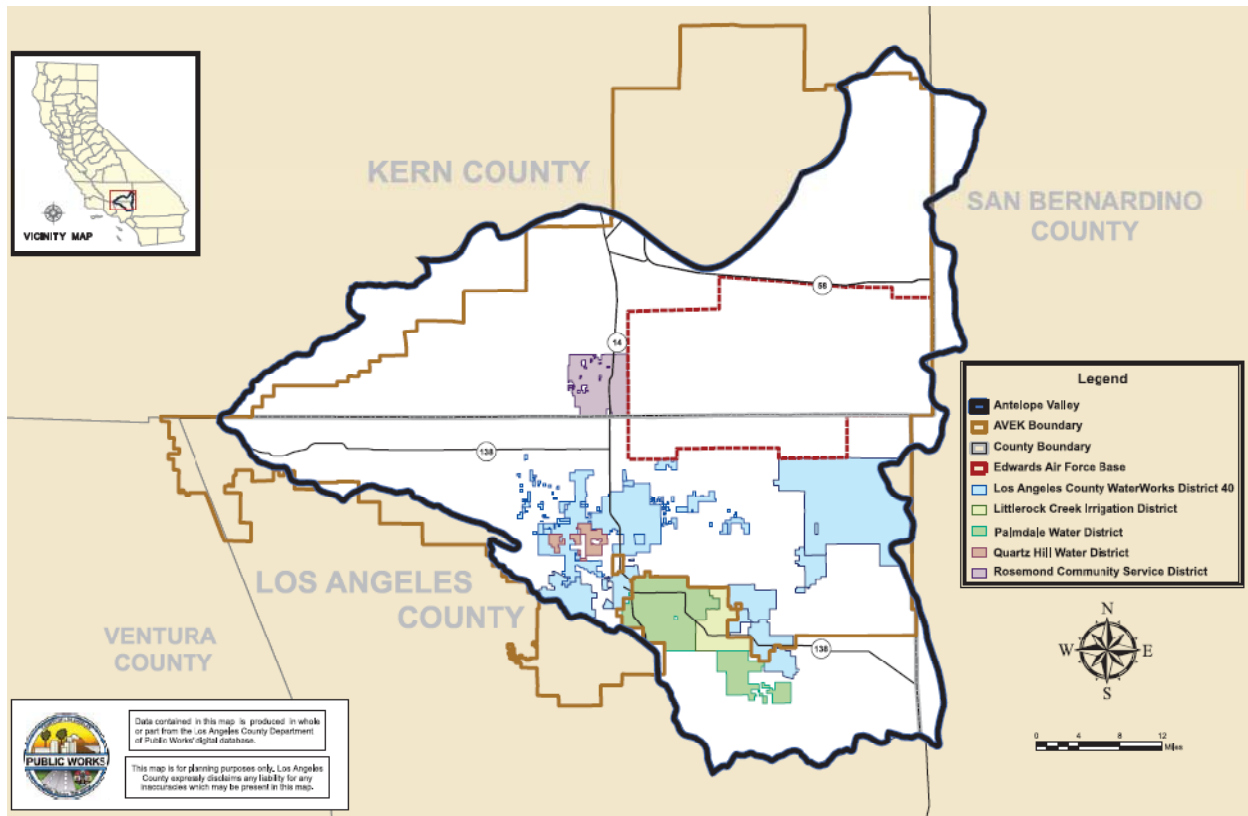
ORGANIZATION	STATUTORY AUTHORITY OVER WATER SUPPLY OR WATER MANAGEMENT
Wholesale and Retail Water Purveyors/Wastewater Agencies/Flood Management Agencies/Special Districts	
Antelope Park Mutual Water Company	Water supply
AVEK	Water quality management, water supply
AVSWCA	Water supply
Boron Community Services District	Water supply
Edgemont Acres Mutual Water Company	Water supply
El Dorado Mutual Water Company	Water supply
Evergreen Mutual Water Company	Water supply
Golden Valley Mutual Water	Water supply
Lands Project Mutual Water	Water supply
LACSD 14	Water quality management, recycled water supply, wastewater treatment
LACSD 20	Water quality management, recycled water supply, wastewater treatment
LACWWD 40	Water supply, water quality management
Los Angeles County	Flood management, storm water management
Little Baldy Water Company	Water supply
LCID	Water supply
Palm Ranch Irrigation District	Water supply
PWD	Water quality management, water supply
QHWD	Water quality management, water supply
RCSD	Water quality management, water supply
Westside Park Mutual Water Company	Water supply
White Fence Farms Mutual Water Company	Water supply
Municipal and County Governments and Special Districts	
City of Boron	Water supply, water quality management, flood management/control, storm water management
City of Palmdale	Water supply, water quality management, flood management/control, storm water management, recycled water
City of Lancaster	Water supply, water quality management, flood management/control, storm water management, recycled water
California City Economic Development Commission	Not applicable
Kern County Department of Regional Planning	Flood management, storm water management
Los Angeles Department of Regional Planning	Flood management, storm water management
Mojave Chamber of Commerce	Not applicable

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ORGANIZATION	STATUTORY AUTHORITY OVER WATER SUPPLY OR WATER MANAGEMENT
Regulatory and Resource Agencies – State and Federal	
California Department of Public Health	Water quality management
California State Department of Fish and Game	Water quality management
California State Parks	Water quality management
Edwards Air Force Base	Flood management, storm water management
Lahontan Regional Water Quality Control Board	Water quality management
Natural Resources Conservation District	Water quality management
United States Department of Agriculture	Water quality management
United States Geological Survey	Water quality management, flood management
Recreational and Environmental Entities	
Antelope Valley Conservancy	Water quality management
Antelope Valley Resource Conservation District	Water quality management
Antelope Valley Water Conservation Coalition	Water quality management
Sierra Club	Water quality management
Community Representatives/Social Justice Organizations/Public and Private Interests	
Antelope Valley Building Industry Association	Not applicable
Mojave Desert News	Not applicable
Agricultural Interests	
Los Angeles County Farm Bureau	Not applicable
Kern County Farm Bureau	Not applicable

Source: 2007 IRWM Plan

Figure 2: Antelope Valley Water Service Agencies



c) Regulatory and Resource Agencies - State and Federal

Several State and Federal regulatory agencies have been and will continue to be involved in the identification of issues, formation of objectives, and development of projects for the IRWM Plan. Coordination with these regulatory agencies is essential to the development and implementation of all recommended projects due to the need for regulatory and environmental approval prior to implementation. Furthermore, these agencies have had the chance to address items of concern on these projects at prior Stakeholder meetings. Their roles and responsibilities are to ensure that this IRWM Plan consider resource management, resource enhancement, and regulatory compliance standards. These agencies include: Lahontan Regional Water Quality Control Board, the California Department of Health Services, the California State Parks, and the California State Department of Fish and Game; the United States Department of Agriculture, Natural Resources Conservation District, United States Geological Survey, California Department of Water Resources and Edwards Air Force Base.

d) Recreational and Environmental Entities

The role and responsibility of the recreational and open space entities is to ensure that issues and goals related to conservation and protection of the natural resources and habitat within the

Region were incorporated in the IRWM Plan. The communities involved include the Antelope Valley Conservancy, the Antelope Valley Water Conservation Coalition, Antelope Valley Resource Conservation District and the Sierra Club. They too will continue to be actively involved through the update to the IRWM Plan.

e) Community Representatives/Public and Private Interests

Other Stakeholders involved in the development and implementation of the objectives for this IRWM Plan include other community representatives such as the Building Industry Association (BIA) as well as from the media. The BIA's role is to ensure land-use planning and growth management within the Antelope Valley is incorporated in the IRWM Plan. The building industry entities involved include two chapters of the Building Industry Association: the Antelope Valley Chapter and the Kern County Chapter. Representatives of the Antelope Valley Press and the Mojave Desert News regularly attend RWMG stakeholder meetings and inform their readership of the goals and objectives of this IRWM Plan. Progress is regularly reported in these two major area newspapers as well as other local papers. Additionally, the Antelope Valley Board of Trade and Chamber of Commerce receive IRWM Plan activities through e-mail. All will be asked to continue to provide input as the IRWM Plan is updated.

2. Involvement

Stakeholders and members of the RWMG participated in nineteen stakeholder meetings, reviewed draft document materials, and provided extensive collaborative input to shape the original Antelope Valley IRWM Plan. For those topics that required further discussion during Plan development, stakeholders engaged in smaller, focused technical committees to ensure that all stakeholder concerns were being considered while continuing to expedite this IRWM Plan development process.



Stakeholder involvement was historically strong during the development of the initial IRWM Plan. The proposed plan update will again rely on the active engagement of this stakeholder group.

Membership in the stakeholder group is broadly extended to a number of entities, and membership continues to grow. Neither a financial contribution nor agency status is or ever has been required to be part of the collaborative IRWM Plan development process. Through extensive outreach efforts, individuals from disadvantaged, small, and rural communities as well as other interested groups are continually encouraged to participate, and they are being informed of IRWM Plan development efforts through presentations, media relations, and information disseminated in their communities.

Outreach programs, aimed specifically at disadvantaged communities (DACs), include outreach meetings held by the Public Outreach Subcommittee in the disadvantaged communities; outreach booths at community wide events such as the annual Antelope Valley Fair and Alfalfa Festival; and publication of all meeting materials, presentations, technical resources, AVIRWM Plan goals and objectives and proposed project ideas on the Antelope Valley Water Plan website (www.avwaterplan.com). These efforts will continue and will be supplemented by targeted outreach efforts detailed in **Task 1.3 of Section II**.

Since the adoption of the IRWM Plan, quarterly AVIRWM Plan Stakeholder Group Meetings are held so that all entities and the general public can be apprised of a number of ongoing issues including: individual project(s) status; grant application status and where applicable funding opportunities; general items of regional interest to the collective group. In addition to AVIRWM Plan Stakeholder Group Meetings, committees have been formed to further examine different aspects of improvements. Committees include the Salt and Nutrient Management Committee, the Conservation Committee, the Public Outreach Committee and the Water Supply/UWMP committee.

Notice of AVIRWM Plan Stakeholder Group meetings/agendas and follow-up meeting minutes are currently posted on the Antelope Valley Water Plan website, as well as placement with local news media. Additionally, email notifications are sent to all interested parties with announcement of upcoming meetings/agendas sent approximately one month prior to a scheduled meeting. Local media is typically present for coverage through print medium for the general public to gain knowledge of current activities tied to the AVIRWM Plan program.

The region desires to sustain this level of stakeholder involvement through the implementation of the IRWM Plan; continuation of the activities described above (primarily AVIRWM Plan Stakeholder Group Meetings, outreach to DACs, and website maintenance) was therefore assumed in the proposed work plan presented in Section II.

E. Disadvantaged Communities

This section summarizes the process used to identify the region's DACs and how they were engaged in the IRWM process.

1. Identification

In Proposition 50, Chapter 8, DACs are defined as having an annual median household income (MHI) that is less than 80 percent of the statewide annual median household income, which is \$37,994 using Census 2000 data. To begin identifying disadvantaged areas in the Antelope Valley Region, the Public Outreach Subcommittee of the AVIRWM Plan Stakeholder Group conducted an initial assessment of the Antelope Valley Region using 2000 Census data. In order to provide the most accurate determination of the DACs in the Antelope Valley Region, MHI was compared at the census tract level. The analysis showed that approximately 20 census tracts within the Region have an MHI less than 80 percent of the statewide MHI. This equates to approximately 20 percent of the Antelope Valley Region's population. Census block information, which is more detailed than census tract level information, was further refined through the creation of a map with residential household areas. This allowed members to compare census tract and residential information to more-accurately pinpoint specific communities within the census blocks that were disadvantaged, as census blocks tend to cover large areas with very few residents. By identifying the actual residential areas within the blocks, subcommittee members could then effectively locate the organizations that would ensure communication with DAC community members. Using these methods, the following DACs and their critical water related needs were identified in the Antelope Valley Region:

Lake Los Angeles, Unincorporated Los Angeles County

- Interest in restoring Lake Los Angeles – could create reservoir for farming, fire usage, recreation, tourism/commercial, possible groundwater recharge site, possible use of recycled water.
- Provide flood control at Big Rock Creek Wash – heavy rains cause flooding along local roads.
- Transition from septic systems to sewer – they have some sewer lines installed but have not been used.

Littlerock, Unincorporated Los Angeles County

- Would like to see the creation and enforcement of xeriscaping ordinances designed for their community.
- Interested in opportunities for water recharge, banking, and conservation – although no specific examples were cited at the time.
- Concern about growth of communities vs. water reliability for the region.

Mojave, Unincorporated Kern County

- Water conservation concerns. Specifically, the Mojave School District is interested in constructing two new high schools in a water-efficient manner. The Outreach Subcommittee put the School District in contact with Mojave Utilities District and Environmental Justice Coalition for Water (EJCW).

Portions of the City of Lancaster

- Critical water-related needs to be determined at scheduled community meetings.

Portions of the City of Palmdale (Desert View Highlands)

- Critical water-related needs to be determined at scheduled community meetings.

Roosevelt, Unincorporated Los Angeles County

- Primarily concerned with protecting their wells, protecting agricultural water rights, and reducing the amount of recycled water used on agricultural lands operated by LACSD. An LACSD Outreach Subcommittee member followed up directly with community member concerns about the current and future LACSD water usage in their area.

Task 1.3 of the work plan details how the AVRWMG will follow up on these issues, seek to identify new ones, and implement strategies to improve the chances of addressing these water-related needs of the Region's DACs.

a) Underrepresented Communities

A subset of DACs is "underrepresented" communities. These communities are composed of minority communities living within DACs. There are two areas within the Antelope Valley Region that meet this criterion, both contained within the Cities of Lancaster and Palmdale. These cities are working to identify the exact community locations to receive public outreach, and additionally, the Hispanic Chamber of Commerce has been contacted in an effort to reach underrepresented minorities in these cities.

b) Rural/Isolated Communities

Many communities that do not face the economic constraints of disadvantaged communities must deal with obstacles due to limited resources and geographic location. Many smaller, rural communities in the Antelope Valley Region are isolated, both politically and physically, from the agency and organizational happenings in the Antelope Valley Region. The subcommittee agreed that these communities would be incorporated into IRWM Plan outreach efforts to address of this isolation.

c) Native American Tribal Identification

Research and outreach efforts were also made to identify and contact local Native American tribal communities through contacts with other Antelope Valley community groups and research. Although no organized tribes were identified through this outreach process, an invitation was extended to Native Americans who had expressed interest in water management planning activities in the area. Some Native American individuals within the Antelope Valley Region were contacted but reported that their lineage groups were not land holders and, therefore, not recognized as tribes or nations.

2. Involvement

The DAC outreach strategy and action steps takes advantage of existing efforts and relationships, working directly with community leaders and RWMG members, and gathering and using input from all stakeholders. The members provide technical assistance and other resources, as well as encourage participation from the smaller, disadvantaged communities in the Stakeholder Group.

The Public Outreach Committee contacted community groups within the identified DACs to schedule outreach meetings for the existing IRWM Plan. Contacts were made with the Mojave Chamber of Commerce, Mojave School District, and Mojave Utilities District based on information received from the Mojave Desert News reporter who covered the Stakeholder Group meetings. Subcommittee members representing the Cities of Palmdale and Lancaster assisted in arranging community meetings to present this IRWM Plan and gathered information from residents in the identified DAC areas of their respective cities. Town Council meetings in Lake Los Angeles, Littlerock, and Roosevelt were held in order to reach the DACs living in those areas. The Public Outreach Committees efforts were very successful for the existing IRWM Plan and will be continued for the update to the Plan.

One of the main topics of concern that initially surfaced for the region occurred at the Association of Rural Town Council meeting: the pending, controversial groundwater adjudication in the Antelope Valley. They expressed the feeling of being excluded from most planning efforts that they felt were dominated by large jurisdictions and agencies. This concern, although a separate issue from the IRWM Plan, is undoubtedly connected to the water issues for the region, and subcommittee members found the need to open the floor for discussion about this important concern. As a result of the tensions surrounding the legal adjudication, communities were asked if they would prefer to talk about the groundwater adjudication issues upfront before presentations were given. All communities indicated that initial discussion of groundwater adjudication issues would be useful and desirable. This approach helped to clarify the relationship between the adjudication and the IRWM Plan and to alleviate potential tensions due to the sensitivity of the topic. During the meetings, we emphasized that the IRWM Plan has provided a new way of working together in the region despite traditional barriers or ongoing disputes.

Concurrent with identification of underrepresented DAC areas, committee members provided all meeting materials in printed and electronic formats and also prepared all materials in English and Spanish for distribution. Meeting materials included PowerPoint presentation, a listing of RWMG general stakeholder meetings, a list of technical resources, IRWM Plan goals and objectives, and a list of proposed project ideas. Additionally, the governance structure of the IRWM Group was designed to encourage regional participation, to accept project proposals on an ongoing basis, and to continue to reach out to DACs and provide technical assistance to those who need it. Representation from DACs in the stakeholder group was/is beneficial in implementing the Plan in a fair and balanced way.

Outreach efforts were not limited to DACs, rather they extended to all communities in the Region to include taking the IRWM Plan message to traditionally-isolated and more rural areas of the Antelope Valley to include the following communities:

- Antelope Acres
- Boron
- Juniper Hills
- Leona Valley
- Sun Village
- The Lakes Community
- Three Points

Although they are not considered ‘disadvantaged,’ these are towns that are generally very small in population, have fewer resources, and thus, a smaller organizational structure. Most often, these towns are not able to participate in many of the larger projects that municipalities are engaging in with respect to water and environmental resource related issues in the Antelope Valley Region. However, these communities were eager to participate in a Regional group in what, for most, was the first such collaborative effort. Areas like Antelope Acres, Boron, Leona Valley, and Three Points have relatively high median household incomes but have been frustrated in trying to get specific projects implemented or tying in to regional efforts because of the long distances that separate many communities in the Antelope Valley Region. This approach was believed to be the most effective way to reach the largest possible number of stakeholders and gather information from DACs, underrepresented, rural communities, and, therefore, all areas within the Antelope Valley Region within the short timeframe required by this IRWM Plan schedule.

In incorporating these rural areas into our outreach efforts, we had the ability to tour communities like Antelope Acres and Three Points while having direct conversations with

residents about the concerns and issues facing their communities. As a result of these outreach efforts, committee members were also invited to attend community events such as the Juneteenth Festival in Sun Village to continue further promote the IRWM Plan, and although resources within these communities are typically very limited, several communities proactively nominated representatives to attend the RWMG stakeholder meetings to be part of Plan development and to carry news back to their members and their community.

The DAC outreach programs were very successful for the existing IRWM Plan and will continue for the update to the IRWM Plan. Outreach efforts will include scheduling outreach meetings in the DACs, presenting information at community events, contacting community groups, providing all information in an accessible way and also new ways to even further promote and increase DAC involvement in the IRWM Plan update.

The region desires to sustain this level of DAC outreach through the implementation of the AVIRWM Plan; continuation of the activities described above was therefore assumed in the proposed work plan presented in Section II.

F. Process Used to Determine Water-Related Objectives and Conflicts

The process used to identify the Region's water related objectives and conflicts has remained the same since the development of the original objectives and conflicts in the IRWM Plan. In the development of the IRWM Plan, the Stakeholder Group members were asked to brainstorm preliminary objectives for the issues and needs of concern for the Antelope Valley Region. The lists from the brainstorming session were compiled and revised and a draft list of objectives was presented to the Stakeholder Group. At the next Stakeholder meeting, the draft list of objectives was discussed amongst the entire group and new stakeholder comments were reviewed and incorporated into the objectives, as appropriate. The list was then finalized and incorporated into the IRWMP.

Water-related issues and needs vary with time – especially as planning activities are looking out to the next 20 to 30 years. It is therefore good practice to confirm or update planning objectives every 5 to 10 years. Planning objectives and goals update was therefore included in the proposed work plan presented in Section II.

Recent conflicts recognized through the process described above include issues related to groundwater quality and flood management, both of which are described in more detail below.

1. Groundwater Quality

The groundwater basin within the Antelope Valley Region is a closed basin, meaning there is no outlet for water to flow to the ocean. When water enters a closed basin, any minerals or chemicals in the water typically accumulate in the basin. Currently, groundwater quality is excellent within the principal aquifer but is not as good toward the northern portion of the dry lake areas. Some portions of the basin contain groundwater with high fluoride, boron, total dissolved solids, and nitrate concentrations. Arsenic is another constituent of concern in the Antelope Valley Region and has been observed in wells in and around LACWWD 40, PWD, Boron, and QHWD and north of Rosamond.

The groundwater in the Antelope Valley Region is a major component of the water supply and any loss of this supply due to water quality degradation will make it difficult for the Region to meet its future demands. The development of a Salt/Nutrient Management Plan (see **Task 2.2 in the Work Plan**), along with the adjudication process that is currently in progress, will help the Region meet its future water demand by making the groundwater a more reliable water supply source in the future.

2. Flood Management

The Antelope Valley is prone to flash flooding from uncontrolled runoff in the nearby foothills; this situation is aggravated by the lack of a coordinated and comprehensive drainage infrastructure system for managing stormwater and urban runoff. Stormwater tends to be of poor quality and high in sediment, and is further degraded by urban runoff. In some areas of the Valley, underlying impervious soils will cause



stormwater to pool and become nuisance water until it eventually evaporates. If the stormwater is able to percolate into the subsurface, the quality of the groundwater can be negatively impacted. The need for regional coordination of flood control efforts becomes more readily apparent as urban development and paved surfaces increase throughout the Antelope Valley Region. The development of an Integrated Flood Management Plan (see **Task 2.3 in the Work Plan**) will eliminate the negative impacts of flooding in the Region.

G. Process Used to Determine Regional Priorities

The process for determining the regional priorities continues today as it has since the original development of the IRWM Plan. To prioritize proposed projects, the Stakeholder Group and RWMG, through a process of broad facilitated agreement, create a project evaluation matrix which is described in detail in Section 7.3 of the IRWM Plan. Each evaluation criteria, which were developed in a collaborative process between the Stakeholders and the RWMG, is described in greater detail below. After the development of the evaluation matrix, the Stakeholders are broken up into groups and asked to give a preliminary “priority” ranking to each project based on the information in the matrix and the discussions presented at the meeting. The group is asked to assign priority under the assumption that any particular project will be implemented with or without grant funding. Priority is given as follows:

- A ‘high’ priority is assigned to projects the group will take action on within the next two (2) years.
- A ‘medium’ priority is assigned to projects the group will take action on within the next five (5) years.
- A ‘low’ priority is assigned to projects the group will take action on within the next five (5) to ten (10) years.

Based on the Stakeholders determinations of the ranking process above, the projects and alternatives given ‘high’ priority, are selected for implementation. It should be noted that objectives, needs, and conflicts can change and that projects that are selected for implementation may also change or become obsolete.

1. CEQA Completed, or Not Required

Activities funded under Proposition 50 must be in compliance with the CEQA. Projects that have completed CEQA analyses or do not require CEQA review were given a point.

2. Cost Estimates Prepared (with some detail)

A point is given to projects that are farther along in their estimation of their project costs. This allows Stakeholder to determine the readiness of projects to proceed.

3. Schedule Prepared

Preference is given to those projects that demonstrate a ‘readiness to proceed’. A point was given to those projects that had a schedule for implementation that was consistent with its project description and cost estimate. The three evaluation criteria above: (1) CEQA, (2) Cost Estimation (including cost/benefit detail if available), and (3) Schedule, collectively gave the Stakeholders an indication of the readiness to proceed for a particular project.

4. Have Broad Support among AVIRWM Plan Stakeholders

It is ultimately up to the Antelope Valley Region Stakeholders to determine which water management projects and actions they wish to implement to address their issues and needs, and only those projects that are supported by the group are likely to move forward. Therefore, those projects that have broad support amongst the IRWM Plan stakeholders are given a point.

5. Integrates Easily with Other Projects

A key criterion for prioritization is the ability of a project to integrate with other projects and maximize linkages between projects. Projects that can be integrated easily with other projects are given a point.

6. Number of IRWM Plan Objectives and Planning Targets Addressed

The IRWM Plan objectives and planning targets are used to evaluate projects. Priority is assumed to weigh more heavily on projects that meet more than one IRWM Plan objective. Therefore, for each project, the number of objectives that a project contributes to is tallied as its score for this criterion.

7. Six or More AB 3030 Elements Addressed

The Assembly Bill (AB) 3030 elements for a Groundwater Management Plan, identified in Section 3 of the IRWM Plan, are used to evaluate projects. Projects that contribute to six or more AB 3030 elements are given a point.

8. Six or More Water Management Strategies Addressed

The IRWM Plan water management strategies, identified and correlated with the California Water Plan strategies in Section 5 of the IRWM Plan, are used to evaluate projects. Projects that contribute to six or more water management strategies are given a point.

9. Four or More IRWM Plan Preferences Addressed

The IRWM Plan preferences are identified and used to evaluate projects. Projects that contribute to four or more IRWM Plan preferences are given a point.

10. Five or More Statewide Priorities Addressed

The statewide priorities are used to evaluate projects. Projects that contribute to five or more statewide priorities are given a point.

11. Consistency with General Plans

The local and regional general plan policies related to water supply, water quality, flood management, environmental resource management, and land use management are identified and used to evaluate projects. Projects that demonstrate consistency with the general plan policies are given a point.

12. Serves a Disadvantaged Community

A DAC is assumed to benefit from a particular project if the project increases the reliability of water supply for the Antelope Valley Region as a whole, enhanced water quality in the Antelope Valley Region, or if the DAC is located within the service area of a proposed project. In this manner, a project is given a point if it is determined to benefit a DAC.

13. Regional Priorities

Regional priorities are intended to guide development of the IRWM Plan. Using the systemic approach of ‘facilitated broad agreement’ during one of the Stakeholder meetings, the following Regional priorities were developed. These priorities are inherently integrative to the objectives and planning targets identified in Section 4 that address the Antelope Valley Region’s issues and needs. Based on discussions with the RWMG and the greater Stakeholder group, the following short-term (3 to 5 years) and long-term (20 years) priorities were identified for the Antelope Valley Region. For each project, the number of regional priorities that a project contributes to is tallied as its score for this criterion.

a) Short-term Implementation Priorities (3-5-years)

- Complete the Antelope Valley IRWM Plan within 3-5 years;
- Identify projects that will meet the gap between existing projects and the Regional planning targets;
- Maximize funding opportunities for project implementation from local, state, and federal funding sources;
- Utilize a committee structure for continued development and implementation of the IRWM Plan;
- Develop programs and policies to increase groundwater recharge or better manage groundwater use; and
- Encourage cooperation in the short-term to develop regional groundwater banking programs.

b) Long-term Implementation Priorities (20 years)

- Maintain a committee structure to oversee plan implementation and continued stakeholder input;
- Optimize use of recycled water, conjunctive management, conservation, and stormwater to enhance water supply reliability;
- Provide adequate water and wastewater services to meet projected growth
- Protect groundwater supplies;
- Provide more efficient storage for imported water supply to increase its reliability;
- Preserve open space, agricultural land uses, conserve functional habitats, and protect special-status species;

- Continue to meet applicable water quality standards;
- Expand distribution systems to provide recycled water to new users; and
- Expand voluntary water conservation programs for residential, commercial, industrial and agricultural uses.

Additionally, projects are reviewed for geographic coverage while using a mix of plan objectives and water management strategies to provide multiple benefits. Stakeholders are also given an opportunity to present support for projects, to discuss the merits of the projects with the Stakeholder group, and to discuss how the projects could potentially be combined to create more regional, comprehensive, and logistically beneficial and efficient projects. Stakeholders may also present modified versions of projects to the group that they felt better integrate with the goals and objectives of the Antelope Valley Region as well as other projects.

For the proposed IRWM Plan update, the AVRWMG will use these priorities as the basis for discussion and will revisit and update these priorities (see Task 3 of the Work Plan) as needed through meeting with the Stakeholder Group.

H. Data and Technical Analysis

This section summarizes the data and technical analysis collected/performed and how that data is managed.

1. Data Management

Collection and dissemination of data to stakeholders, agencies, and the general public is integrated into the AVIRWM Plan process to ensure overall success. A requirement of the Proposition 50 Guidelines is the routine reporting on project performance. The routine collection of this data naturally lends itself to the routine collection and reporting that is required as part of the AVIRWM Plan process. The stakeholders have suggested, as one potential option which would have to be agreed to by the RWMG, that the AVSWCA, as the potential grant contracting entity, compile the reporting of this IRWM Plan and work individually with the project proponents to receive updates on individual project progress. It was suggested that a standardized reporting format be created which the AVSWCA could use to compile this data, which could then be uploaded to the project website described in more detail below. Data collected or produced as part of the AV IRWM Plan will then be presented and disseminated during quarterly meetings.

A public website has been created to store data and information about the AVIRWM Plan process so that the public can find information about public meeting dates, agendas, and notes. The website provides information on the AVIRWM Plan process and posts annual reports and relevant documents that can be downloaded. Data collected during the AVIRWM Plan process will

be available on the website as well. The website will also provide links to other existing monitoring programs to promote data between these programs and the AVIRWM Plan. This will provide a means to identify data gaps (e.g., information needed to provide a more complete assessment of the status of a specific issue or program) and to ensure that monitoring efforts are not duplicated between programs.

The AVIRWM Plan website (www.avwaterplan.org) provides a mechanism for stakeholders to upload project information regarding water supply, water quality, and other benefits of the project, which will be collected in a database to manage, store, and disseminate information to the public. A data collection template will be available on the website in the future so that data collected during the AVIRWM Plan can be stored and managed in a consistent format. This template will be compatible with those used in the statewide Groundwater Ambient Monitoring and Assessment (GAMA) and the Surface Water Ambient Monitoring Program (SWAMP) programs to assist in the sharing and integration of data with these programs.

2. Technical Analysis

Projects identified for implementation in the AVIRWM Plan are supported through technical studies, which consist of collecting information from already completed projects in other areas. The information is reviewed by a Technical Advisory Committee (TAC) and all information is posted on the Antelope Valley Water Plan website (www.avwaterplan.com) for further review. Representatives from the TACs are nominated by the AVIRWM Plan Stakeholder Group and any other participant. The TAC is responsible for reviewing any new information, validating any assumptions that are made, reviewing the data used to make the decisions, and ultimately deciding if and how the proposed project should continue.

I. Integrated Resource Management Strategies

To ensure that integrated resource management strategies continue with the updating of the IRWM Plan, many of the successful strategies used in the development of the original IRWM Plan will continue. With the development of the IRWM Plan, many different agencies and organizations came together and have continued to work together to improve the Antelope Valley Region by collaborating on projects that do not focus on just one concern, rather a myriad of concerns that affect the entire Region.

To help identify the many potential projects in the Antelope Valley Region and to assess the contribution of these projects towards meeting the AVIRWM Plan objectives and planning targets, a “Call for Projects” form are sent out to all the Stakeholders to give them the opportunity to submit their project concepts for consideration. The “Call for Projects” provides an avenue to engage the Stakeholders in the information-sharing aspect of Plan development, and result in identification of many projects that provide multiple benefits that span more than one water management strategy.

In the determination of regional priorities, many of the criteria used to evaluate projects involve the incorporation of multiple management strategies and objectives. These criteria force projects to solve multiple issues and conflicts and force multiple agencies and organizations to work together. The IRWM Plan framework and the project selection criteria for the Antelope Valley Region mandate that integrated resource management strategies are used.

J. Plan Implementation

The AVIRWM Plan establishes broad objectives and planning targets for the entire Antelope Valley Region. The Antelope Valley Regional Water Management Group (RWMG), created for the development and implementation of the AVIRWM Plan, cannot feasibly assume responsibility for meeting all of the objectives and planning targets. Thus, projects and management actions implemented by the AVIRWM Plan stakeholders will likely remain the primary means by which the IRWM Plan's objectives are contributed. As acknowledged in a number of the stakeholder meetings, many of the local agencies increasingly acknowledge the value of collaboration in the planning, design, implementation, funding, monitoring and maintenance of integrated projects. Implementation of the AVIRWM Plan supports the development of integrated projects, provides a comprehensive framework that can support planning by individual agencies and jurisdictions, and encourages integrated planning for those issues that could benefit from a regional approach. Numerous plans and studies related to water resources and land use management in the Antelope Valley Region have contributed to the development of the IRWM Plan.

Implementation of the AVIRWM Plan will address many of the policies and goals found in the planning documents of the Antelope Valley Region. By doing so, it also plays a crucial role of placing these plans into a regional context, while preserving the outcomes of the individual planning efforts. Most of the implementation projects come directly from local planning documents. Altogether, the projects included in the AVIRWM Plan directly implement elements of a number of local plans and studies, including Urban Water Management Plans (UWMPs), Water Recycling Master Plans, Water Conservation Master Plans, and Master Facilities Plans. The AVIRWM Plan also includes projects that meet the water quality objectives of the Lahontan RWQCB Basin Plan, and the water supply reliability, water quality, open space and recreation, and flood management goals, policies, and programs of the Antelope Valley Region's General Plans.

A substantial number of federal, state and local/regional agencies and jurisdictions are responsible for, or participate in, the development and implementation of plans and programs that satisfy the water management strategies developed earlier in this report. Much effort is required to assure cross-agency coordination and integration for the development of regional

plans and projects for individual water management strategies or that incorporate multiple water management strategies.

Since the adoption of the AVIRWM Plan, numerous projects described therein have begun or have been completed. Some of the projects that have begun or have already been completed include:

- Regional UWMP - Currently all public water companies in Antelope Valley are preparing a Regional UWMP to reflect the supply, demand, and plan for the entire region, rather than only focusing on our own service areas. This Regional UWMP is expected to be completed by July 2011.
- Salt/Nutrient Management Plan (SMP) – Discussed in more detail in the Work Plan, the SMP Committee of the Stakeholder Group has begun preparing a SMP for the Antelope Valley consistent with the State Water Resources Control Board’s Recycled Water Policy.
- Wastewater treatment plant upgrades - Both Sanitation District facilities are currently under construction and will provide disinfected tertiary treatment for all wastewater in the Region by 2011. These upgrades have been financed entirely with local funds
- Recycled Water Backbone System - Local funding has been secured for a significant portion of recycled water backbone system. This project is currently being designed and will be constructed by early 2012.
- Antelope Valley Water Banks - Studies are currently being completed by the USGS to assess the feasibility of using AVEK’s 1,500 acres of prior farmland and the City of Palmdale’s Upper Amargosa Creek Recharge Project site for recharge and banking.
- Conservation based water rate structures for water retailers – The Palmdale Water District has instituted an individualized budget-based rate structure for its customers while the Quartz Hill Water District and Los Angeles County Waterworks District No. 40 have implemented tiered rate water structures for customers.
- Cash for Grass – Rebates are now offered in the Region for customers to remove their turf areas and replace them with permeable hardscape or native and drought tolerant vegetation.
- Toilet and Washing Machine Rebates – offered in the region for installing high efficiency toilets and Clothes washers
- AVEK and PWD treatment plant upgrades – AVEK has expanded its plants that treat surface water from the State Water Project (SWP) to be able to deliver its full entitlement and capacity in the SWP. PWD has similarly upgraded its treatment plant and modified its treatment method to produce higher quality water for customers

- Aquifer Storage and Recovery – Over 15 new groundwater wells have been installed throughout the Region in the areas of most severe groundwater overdraft to inject and store excess treated SWP water when it is available.
- Littlerock Dam Sediment removal project – The environmental permitting process for this project, led by the Palmdale Water District, is nearly complete.
- Xeriscaping guidelines – Prepared by the City of Lancaster to provide residents with a step-by-step process for converting their landscapes
- Antelope Valley Groundwater Flow Model - USGS will complete by end of 2010

The Antelope Valley Region will benefit from updating of the IRWM Plan by providing context for the numerous agencies and organization to discuss projects that need to be done in the Region including, improving the groundwater quality situation by developing a Salt/Nutrient Management Plan, developing an integrated flood management plan, continuing outreach to DACs and examining their needs, and assessing the impacts of climate change.

K. IRWM Plan Standards

The drafting and adoption of the 2007 IRWM Plan occurred prior to issuance of current IRWM standards. As such, updates will be needed to meet the current standards. Table 6 over the following five pages, provides an outline of the current IRWM Plan, a summary of the new IRWM Plan standards, an analysis of how well the current section of the IRWM Plan addresses these new standards, and recommendations for how these sections will be updated through the specific tasks listed in the work plan (**Section II**).

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**Table 6: Proposed Changes to Current IRWM Plan Section to Meet August 2010
Updated Standards**

Current IRWM Plan Sections	IRWM Plan Standards (August 2010)	Proposed Changes and Work Plan Tasks Used to Accomplish
SECTION 1: INTRODUCTION 1.1 Background 1.2 Stakeholder Participation 1.2.1 Regional Water Management Group 1.2.2 Planning Group ("Stakeholders") 1.2.3 Activities 1.2.4 Community Outreach 1.3 Plan Development 1.3.1 Goals for Planning Group 1.3.2 Planning Process 1.3.3 Potential Obstacles to Plan Implementation 1.3.4 Groundwater Management Plan	Stakeholder Involvement <ul style="list-style-type: none"> Stakeholder composition Process used to identify stakeholders Disadvantaged communities Technology and information access Decision-making process Involving stakeholders 	<ul style="list-style-type: none"> Analysis: Existing IRWM Plan currently achieves most of these standards. However, the needs of disadvantaged communities needs to be revisited so that these needs can be updated and, where necessary, more thoroughly documented. Recommendation: Update existing IRWM Plan to incorporate new changes and improvements (Task 3.5). Update and further investigate the needs of DACs (Task 2.2). Also update continued process and results of ongoing outreach (Task 1).
SECTION 2: REGION DESCRIPTION 2.1 Region Overview 2.2 Location 2.3 Climate Statistics 2.4 Hydrologic Features 2.4.1 Surface Water 2.4.2 Groundwater 2.5 Land Use 2.6 Social and Cultural Values 2.7 Economic Conditions and Trends 2.8 Population 2.8.1 Demographics 2.8.2 Regional Growth Projections	Regional Description <ul style="list-style-type: none"> Description of watersheds/water system Description of internal boundaries Water supply and demand Water quality Description of major water related objectives and conflicts Explanation of regional IRWM boundary Identification of neighboring or overlapping IRWM regions Climate Change <ul style="list-style-type: none"> Identify climate change impacts and developing adaptation strategies Describe and consider the effects of climate change Climate change mitigation/GHG reduction Implementation of the climate change standard 	<ul style="list-style-type: none"> Analysis: Existing IRWM Plan currently achieves most of the Regional Description standards. However, very little work and analysis on climate change is included in the current IRWM Plan. In addition, salt and nutrient management is becoming important as the region plans to aggressively expand recycled water and, in the future, continue to import an increasing amount of water from outside the Region. Lastly, limited work was performed on integrated flood management in the original IRWM Plan. Recommendation: Update existing IRWM Plan to incorporate new changes and improvements for Regional Description (Task 3.5). Add new analysis on climate change (Task 3.3), salt and nutrient management planning (Task 2.2), and flood management (Task 2.3).

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Current IRWM Plan Sections	IRWM Plan Standards (August 2010)	Proposed Changes and Work Plan Tasks Used to Accomplish
SECTION 3: ISSUES & NEEDS 3.1 Water Supply Management Assessment 3.1.1 Water Entering 3.1.2 Surface Storage 3.1.3 Groundwater Storage 3.1.4 Direct Deliveries 3.1.5 Recycle/Reuse 3.1.6 Water Demands 3.1.7 Water Leaving 3.1.8 Water Budget Comparisons 3.1.9 Regional Water Supply Issues, Needs, Challenges, and Priorities 3.2 Water Quality Management Assessment 3.2.1 Local Groundwater Quality 3.2.2 Imported Water Quality 3.2.3 Wastewater and Recycled Water Quality 3.2.4 Local Surface Water and Stormwater Runoff Quality 3.2.5 Regional Water Quality Issues, Needs, Challenges, and Priorities 3.3 Flood Management Assessment 3.3.1 Regional Flood Management Issues, Needs, Challenges, and Priorities 3.4 Environmental Resource Management Assessment 3.4.1 Important Ecological Processes 3.4.2 Regional Environmental Resource Issues, Needs, Challenges, and Priorities 3.5 Land Use Management Assessment 3.5.1 Recreation 3.5.2 Regional Land Use Issues, Needs, Challenges, and Priorities		
SECTION 4: OBJECTIVES 4.1 Objectives Development 4.2 Water Supply Management Objectives and Targets 4.3 Water Quality Management Objectives and Targets 4.4 Flood Management Objectives and Targets 4.5 Environmental Resource Management Objectives and Targets 4.6 Land Use Management Objectives and Targets	Objectives <ul style="list-style-type: none"> Determining objectives Describing the process Measuring the objectives Prioritizing IRWM Plan objectives Objectives, goals and the planning hierarchy 	<ul style="list-style-type: none"> Analysis: Existing IRWM Plan currently achieves most of these standards. Recommendation: Update existing IRWM Plan to incorporate new changes and improvements (Task 3.1)

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Current IRWM Plan Sections	IRWM Plan Standards (August 2010)	Proposed Changes and Work Plan Tasks Used to Accomplish
SECTION 5 : WATER MANAGEMENT STRATEGIES 5.1 Introduction 5.1.1 Water Management Strategy Descriptions 5.1.2 Call for Projects 5.2 Water Management Strategies 5.2.1 Water Supply Management Strategy 5.2.2 Water Quality Management Strategy 5.2.3 Flood Management Strategy 5.2.4 Environmental Resource Management Strategy 5.2.5 Land Use Management Strategy	Resource Management Strategies <ul style="list-style-type: none"> New resource management strategies Documenting the process 	<ul style="list-style-type: none"> Analysis: Most of the resource management strategies identified in Table 3 of Appendix C in the guidelines have been addressed and will require only limited update. There are, however, a handful of new standards that will need to be considered. In general, most are not expected to require significant new work. Recommendation: Address newly added water management strategies (Task 3.5)
SECTION 6 : PROJECT INTEGRATION AND OBJECTIVE ASSESSMENT 6.1 Integration and Objectives Assessment "within" a WMSA 6.1.1 Water Supply WMSA 6.1.2 Water Quality WMSA 6.1.3 Flood Management WMSA 6.1.4 Environmental Resource WMSA 6.1.5 Land Use Management WMSA 6.2 Assess Projects for Multiple Benefits "Across" WSMA's 6.2.1 Geographic Integration 6.2.2 Compliance with, and Objectives Assessment for the IRWM Plan Guideline Strategies, AB 3030, IRWM Plan Guidelines Program Preferences, and Statewide Priorities 6.3 Added Benefits of Integration 6.4 Conclusions	Integration The intent of the Integration Standard is to ensure the RWMGs intentionally create a system where integration can occur. Potentially types of integration may include: <ul style="list-style-type: none"> Stakeholder/institutional integration Resource integration Project implementation integration 	<ul style="list-style-type: none"> Analysis: Project integration was explicitly addressed in the IRWM Plan. However, the basis for these integration opportunities will need to be updated in general and more specifically in order to address other types of integration opportunities. Recommendation: Update project integration needs and opportunities (Task 3.5)
SECTION 7 : IRWM PLAN AND PROJECTS EVALUATION AND PRIORITIZATION 7.1 Introduction 7.2 IRWM Plan Impacts and Benefits Assessment 7.2.1 Advantages of Preparing a Regional Plan 7.2.2 Interregional Benefits and Impacts 7.2.3 Benefits to Disadvantaged Communities 7.2.4 Resource Specific Impacts 7.3 IRWM Projects Evaluation and Ranking 7.4 Current High Priority Projects	Project Review Process <ul style="list-style-type: none"> Process Components <ul style="list-style-type: none"> Procedures for submitting a project for inclusion in the IRWM Plan Procedures for review of project to implement the IRWM Plan Procedure for communicating the list of selected projects. Review factors Impacts and Benefits	<ul style="list-style-type: none"> Analysis: The current IRWM Plan identifies a comprehensive process for reviewing projects and evaluation impacts and benefits. Overall improvements to the process discussion should be limited. Further work, however, will be necessary on any new projects that are identified and included in the IRWM Plan. Recommendation: Update new project information including impacts and benefits (Task 3.5)

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Current IRWM Plan Sections	IRWM Plan Standards (August 2010)	Proposed Changes and Work Plan Tasks Used to Accomplish
7.4.1 High Priority Projects Benefit/Cost Assessment	<ul style="list-style-type: none"> Water supply enhancement Water quality improvement Groundwater improvements Water conservation and reuse Watershed rehabilitation Habitat improvement Flood management 	
SECTION 8 : FRAMEWORK FOR IMPLEMENTATION 8.1 Framework Introduction 8.1.1 Existing Plans and Programs 8.1.2 Relationship to Local Planning 8.1.3 Relationship of Other Planning Documents to IRWM Plan Objectives 8.2 Institutional Structure 8.2.1 Organizational Structures for Regional Collaboration 8.2.2 Governance Structure 8.2.3 Objectives for New Governance Structure 8.2.4 Recommended Roles for New Governance Structure 8.3 Implementation of High Priority Projects 8.3.1 Lead Agency 8.3.2 Implementation Schedules 8.3.3 Financial Needs of Selected High Priority Projects 8.3.4 Beneficiaries and Funding/Financing Options 8.4 Data Management 8.4.1 Management and Data Reporting 8.4.2 Statewide Data Needs 8.4.3 Existing Monitoring Efforts 8.4.4 Integration of Data into Existing State Programs 8.5 Technical Analysis and Plan Performance 8.5.1 Technical Analysis 8.5.2 Data Gaps 8.5.3 IRWM Plan Performance 8.6 Future AV IRWM Plan Activities 8.6.1 Process for Developing Future Projects 8.6.2 Future AV IRWM Plan Updates	Coordination <ul style="list-style-type: none"> Coordination of activities within an IRWM Region Identification and coordination with neighboring IRWM Regions Governance <ul style="list-style-type: none"> Group responsible for development of the Plan Public notice requirements Plan adoption Description of chosen governance structure Description of how governance addresses and ensures various activities Effective decision making Balanced access and opportunity for participation Effective communication – both internal and external to the IRWM Region Long-term implementation of IRWM Plan Collaborative process used to establish Plan objectives Interim changes and formal changes to the Plan Updating or amending the IRWM Plan Plan Performance and Monitoring <ul style="list-style-type: none"> Explain who is responsible Frequency Data management 	<ul style="list-style-type: none"> Analysis: In general, many of these new or updated plan standards have been addressed in the existing IRWM Plan or will require slightly expanded elaboration. The most significant efforts will likely be in area of data management, where it is proposed to update and expand the existing IRWM website for the Region to address these needs. Recommendation: Make refinements to the implementation framework and further investigate and develop the necessary data management systems (Task 3.4)

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Current IRWM Plan Sections	IRWM Plan Standards (August 2010)	Proposed Changes and Work Plan Tasks Used to Accomplish
	<p>system</p> <ul style="list-style-type: none">• Lessons learned• Project specific monitoring plans <p>Data Management</p> <ul style="list-style-type: none">• Data needs• Data collection techniques• Stakeholder contributions• Responsible entity• Validation or QA/QC measures• Transfer of data between RWMG members and other stakeholders• Data management system and how this helps share data and is compatible with State systems. <p>Financing</p> <ul style="list-style-type: none">• Sources of funding• Certainty of funding	

II. Work Plan Content

The work plan tasks assume a 24-month contract timeframe starting on January 17th 2011.

Task 1: Ongoing Outreach

The ongoing outreach process is critical to the ongoing updates and implementation of the Antelope Valley IRWM Plan. Keeping the AVIRWM Plan Stakeholder Group, Disadvantaged Communities, and general public involved in the process ensures that the update to the AVIRWM Plan will be successful.

As described in Section I.G., the current outreach process consists of posting agendas, summaries, handouts, and presentations on the Antelope Valley Water Plan website (www.avwaterplan.org), the development of the Public Outreach Subcommittee, outreach meetings located within DAC areas and having booths at community events.

The scope of this task was designed to continue this process during the contract timeframe.

Task 1.1: Advisory Team Meetings

The Advisory Team (A-Team) is a group of seven members that were selected by the AVIRWM Plan Stakeholder Group to facilitate implementation of the AVIRWM Plan. Each of the seven members of the A-Team represents a particular category of water related interests including agriculture, conservation and water quality, industry and commerce, municipalities, public landowners and rural town councils, mutual water companies and urban water suppliers.

The A-Team is responsible for:

- Handling the dissemination of information to all parties within the larger Stakeholder Group
- Maintaining the Antelope Valley Water Plan website
- Formulation of meetings/agendas/lead and conduct meetings
- Recommendations to the Stakeholder Group to hire and manage consultants as necessary
- Managing operating funds as provided in an approved budget;
- Providing facilitation for implementation process
- Coordinating with a designated legal entity to execute contracts and financial transactions; and
- Initiating with Stakeholder Group actions to identify, select and apply for appropriate funding opportunities

The objective of this task is to continue the support of the A-Team, including preparation for, facilitation of, and participation in Advisory Team meetings. By continuing the support of the A-Team, information regarding the IRWM Plan and updates to the Plan can continue to be easily distributed to the AVIRWM Plan Stakeholder Group and any other interested parties. To fulfill

its responsibilities, the A-Team is expected to meet on a monthly basis throughout the duration of the IRWM Plan Update (24 meetings). These meetings will be set up and attended by up to two agency staff as noted in Attachment 4 for up to 4 hours each. Consultant staff will assist with facilitating these meetings, presenting the findings of technical evaluations (see Task 2) to A-Team members, and provide input and direction to help with decision-making.

Deliverables:

- Draft and final agendas, materials and handouts, and meeting notes.

Task 1.2: AVIRWM Plan Stakeholder Group Meetings

During the drafting and adoption of the IRWM Plan, AVIRWM Plan Stakeholder Group Meetings were held at least once a month with a maximum of three meetings per month. The meetings, which were all open to the public, consisted of facilitated discussions of major items of interest, to review draft plan chapters, and to provide input on the agenda for upcoming stakeholder meetings. These meetings were announced to a broad distribution list via e-mail and all materials developed for use in stakeholder meetings were made available on the project website.

Since the adoption of the IRWM Plan, quarterly AVIRWM Plan Stakeholder Group Meetings are held so that all entities and the general public can be apprised of the implementation of the IRWM Plan including: individual project(s) status; grant application status and where applicable funding opportunities; general items of regional interest to the collective group.

In addition to AVIRWM Plan Stakeholder Group Meetings, committees have been formed to further examine different aspects of improvements. Committees include:

- Technical Advisory Committee (TAC)
- Salt/ Nutrient Management Plan Committee
- Conservation Committee (Antelope Valley Water Conservation Coalition)
- Public Outreach Committee; and
- Water Supply/Urban Water Management Plan Committee.

It is currently being discussed among the Stakeholders if a committee should be formed for the Flood Management effort described in more detail below.

Notice of AVIRWM Plan Stakeholder Group meetings/agendas and follow-up meeting minutes are posted through the www.avwaterplan.org website, as well as placement with local news media. Additionally, email notifications are sent to all interested parties with announcement of upcoming meetings/agendas sent approximately one month prior to a scheduled meeting. Local media is typically present for coverage through print medium for the general public to gain

knowledge of current activities tied to the AVIRWM Plan program. Any stakeholder interested in receiving updates on the implementation of the IRWM Plan is able to register for email notifications at the www.avwaterplan.org website.

Stakeholder meetings are open to anyone. Agendas are drafted by the A-Team and distributed for comment to AVIRWM Plan Stakeholder Group members prior to meetings, and there is an allocated time period for open discussion or notice of interest items.

The objective of this task is to continue the support of the AVIRWM Plan Stakeholder Group Meetings, including preparation for, facilitation of, and participation in AVIRWM Plan Stakeholder Group meetings. The continued support of the AVIRWM Plan Stakeholder Group meetings will ensure that the general public and all entities will be able to be informed about projects status and grant application status updates, as well as funding opportunities and general items of interest. Because of the activities associated with updating the IRWM Plan, meetings are scheduled to be held bi-monthly (12 meetings) that will require the support of agency staff (as noted in Attachment 4; up to 3 hours each person per meeting) and consultant staff (2 to 8 hours each person per meeting).

Deliverables:

- Draft and final agendas, materials and handouts, and meeting notes. This information will be posted and made available to all via the www.avwaterplan.org website. It will also be included as an appendix to the updated IRWM and the activities and results will be summarized in Section 1 of the IRWM Plan.

Task 1.3: Continued Outreach to DACs

Disadvantaged Communities (DAC) have historically been disproportionately impacted with respect to the development, implementation, or enforcement of environmental laws, regulations, and policies due to race, culture, or income. To ensure that DACs are not negatively impacted by any updates to AVIRWM Plan, outreach to the DACs will continue to encourage participation and solicit input into the AVIRWM Plan updates. The continued outreach will focus on the following communities which are either DAC or lower income communities that do not fit the DAC profile due to slightly higher income levels:

- DAC:
 - Lake Los Angeles, Unincorporated Los Angeles County
 - Mojave, Unincorporated Kern County
 - Portions of the City of Lancaster
 - Portions of the City of Palmdale (Desert View Highlands)
- Lower Income Community:
 - Roosevelt, Unincorporated Los Angeles County

- Littlerock, Unincorporated Los Angeles County

In addition to DACs, outreach programs will continue in areas within the Antelope Valley Region where underrepresented communities are living within disadvantaged communities. These communities are composed of minority communities within DACs. The two areas within the Antelope Valley Region that can be characterized as underrepresented are located within the Cities of Lancaster and Palmdale.

Existing outreach programs, which were designed for the original drafting of the IRWM Plan, will be continued. These include outreach meetings held by the Public Outreach Committee in the disadvantaged communities; outreach booths at community wide events such as the annual Antelope Valley Fair and Alfalfa Festival; and publication of all meeting materials, presentations, technical resources, AVIRWM Plan goals and objectives and proposed project ideas on the website. In addition, the Public Outreach Committee will consult with other nearby agencies that managed successful DAC outreach campaigns.

The objective of this task is to continue the ongoing outreach programs to DACs, communities that nearly fit the DAC profile and underrepresented communities. The continued outreach to these communities ensures that the communities will be aware of the IRWM Plan Update. By making the communities aware of the Plan Updates, they are more likely to provide valuable input into the decision process which results in the implementation of a fair and balanced Plan. To meet this objective, up to 6 meetings are proposed to be held and supported by agency staff (see Attachment 4; up to 3 hours per meeting per staff person) and consultant staff (6 to 12 hours per meeting per staff person which includes preparation time).

Deliverables:

- Draft and final agendas, materials and handouts, and meeting notes for Public Outreach Committee Meetings. These will be included as an appendix to the IRWM Plan. A summary of the activities and results will be incorporated into Section 1 of the IRWM Plan.
- Notices and newsletters to communicate IRWM program activities.

Task 2: Technical Evaluations

As discussed in Section I, the next logical set of IRWM planning and implementation activities include three key technical activities:

- DAC Water Supply, Quality and Flooding Evaluation
- Salt/Nutrient Management Planning

- Integrated Flood Management

Task 2.1: DAC Water Supply, Quality and Flooding Evaluation

The objective of this task is to review information about water supply, water quality and flooding issues in DAC areas, to revisit/expand on DAC needs with respect to these three items, and develop new management strategies and/or monitoring plans for the DAC.

Subtask 2.1.1: Coordination Meetings

With the efforts of the Public Outreach Subcommittee and the DAC Outreach Programs, the AVRWMG will directly discuss the issues related to water supply, water quality and flooding with the DACs. These meetings will allow for the discussion of the collected material and to devise monitoring studies for the DACs as well as get input from members or representatives of the DACs. Personal interviews may also be conducted with community representatives in order to understand needs that may not be adequately addressed in existing plans. These meetings are meant to be supplemental to the meetings conducted under Task 1.3 and more focused on further characterizing DAC issues.

Deliverables:

- Draft and final agendas, materials and handouts, and meeting notes

Subtask 2.1.2: Compile and Review Water Quality and Supply and Flooding Data for DACs

The AVRWMG shall obtain relevant data to water quality, water supply and flooding for the DAC areas from member agencies and stakeholders, including those listed under Task 1.3. The data will be analyzed to determine if monitoring studies should be implemented, when future projects will be required, and what the DAC areas need.



Deliverables:

- Data requests
- Summary memo with maps, figures, and tables summarizing data
- Presentation for AVRWMG agencies regarding DAC water quality issues

Subtask 2.1.3: Develop Water Quality and Supply and Flooding Monitoring Plan for DACs

Based on the data collected, monitoring plans will be developed to fill in data gaps and provide ongoing assessment of the water quality and supply and flooding issues for the DAC areas. Areas with the most urgent issues will be given priority for the monitoring plans.

Deliverables:

- Draft DAC Monitoring Plan
- Final DAC Monitoring Plan

Task 2.2: Salt/Nutrient Management Plan (SMP)

On February 3, 2009, the State Water Resources Control Board (SWRCB) adopted a Recycled Water Policy (Policy) that addresses the concern for protecting the quality of California's groundwater basins. In response to this Policy, Los Angeles County Waterworks Districts and Sanitation Districts of Los Angeles County have, with support of the Lahontan Regional Water Quality Control Board (Lahontan Water Board) staff, formed the Salt/Nutrient Management Plan Committee (SMP Committee) of the IRWM Plan Stakeholder Group to develop a regional Salt/Nutrient Management Plan (SMP) for the Antelope Valley.

The objective of this task is to develop this regional Salt/Nutrient Management Plan (SMP) to manage salts and nutrients (and possibly other constituents of concern) from all sources within the basin to maintain water quality objectives and support beneficial uses. The data collected from the development of the SMP, the findings it documents, and recommendation it will provide will have significant implications for water supply, recycled water, sanitation, and other water quality projects in the IRWM Plan. In addition, all the stakeholders involved in developing the SMP are also active participants in the IRWM stakeholder forum. As such, the SMP is considered an integral and necessary part of the IRWM Plan and thus is included in this work plan. The SMP will ultimately be added to the IRWM Plan as an appendix and the necessary sections of the IRWM Plan will be updated as applicable.

The bulk of the work to be performed in developing the SMP will be done by staff from Los Angeles County Waterworks Division (LACWW) and Los Angeles County Sanitation Districts as these parties are two of the most affected parties in the Antelope Valley. Consultant support is expected to be needed under Subtask 2.2.5 (Data Analysis).

Subtask 2.2.1: Stakeholder Participation

Meetings will be held with the SMP Committee to discuss the various sections of the SMP, and the recommended strategies for monitoring the salt and nutrient concentrations throughout the AV groundwater basin, and the projects or programs to manage the salt content in the AV groundwater basin. The SMP Committee will report their progress at the regularly scheduled AVIRWM Plan Stakeholder Group Meetings.

Deliverables:

- Draft and final agendas, materials and handouts, and meeting notes from SMP Committee meetings

Subtask 2.2.2: Understand Current and Future Basin Uses

A database will be created of current land uses that potentially contribute salts and nutrients to the basin. Once that is completed, a map with land uses will be developed that includes: irrigation sites; wastewater disposal sites; large water recycling sites; groundwater augmentation sites; and other potential sources of salinity/nutrient contributions to the groundwater supply.

Deliverables:

- Map depicting land uses potentially contributing salts and nutrients to the basin within the SMP boundary

Subtask 2.2.3: Create Groundwater Quality Database for Sub-basin

Groundwater characteristics and recharge areas will be determined and background water quality information will be compiled and a database of existing information for the sub-basin will be created. The existing water quality, defined as the average concentration of salts/nutrients and other constituents of concern measured at each well will also be examined and added to the database.

Deliverables:

- Database of existing ground and surface water monitoring efforts
- Figures and tables summarizing groundwater quality

Subtask 2.2.4: Data Analysis

A regional analysis of available groundwater quality databases will be conducted to determine whether sufficient data and ongoing monitoring is available characterize the salt/nutrient loadings and concentrations in each sub-basin. If necessary, the existing Antelope Valley Groundwater Flow Model developed by the United States Geological Survey groundwater model will be used to analyze the data.

Deliverables:

- Brief memorandum summarizing data analysis outcomes

Subtask 2.2.5: Salt and Nutrient Characterization

To characterize the salts and nutrients in the sub-basin, the following steps will be taken:

- Determine the basin's assimilative capacity of salts/nutrients
- Determine the fate and transport of salt/nutrients

- Include other constituents of concern as necessary and appropriate
- Identify potential salt sinks

Future planning scenarios for future users/uses that would include expected requests for projected recycled water production, reuse, discharges to Antelope Valley basins, and expected quality for each wastewater treatment facility (existing and projected) will then be developed. Planning scenarios may include appropriate planning spans, including, for example, a 5-year plan, 10-year plan, 25-year plan and a 50-year projected plan, or some combination as determined by the stakeholders. A draft report will be prepared and submitted to the stakeholders to present the data collected during basin characterization and the results for assimilative capacity (by sub-basin).

Deliverables:

- Figures and tables summarizing data
- Draft report on characterization of basin

Subtask 2.2.6: Develop a Monitoring Plan

Based on results of prior tasks, a Groundwater Monitoring Plan shall be designed to fill data gaps and provide ongoing assessment of salt and nutrient issues throughout the study area. In the development of the monitoring plan, the scale of the plan and the salts, nutrients and constituents to be monitored must be determined. Appropriate monitoring will be determined by targeting basin water quality at existing water supply and monitoring wells and areas proximate to large water recycling projects and groundwater recharge projects. The monitoring plan shall be designed to evaluate the long-term impacts to groundwater quality resulting from current and future land uses. Special care will be given to incorporating monitoring locations within DACs to ensure that water supply and water quality objectives for these areas are maintained.

Deliverables:

- Identify stakeholders responsible for conducting, compiling, and reporting the monitoring data
- Draft monitoring plan
- Final monitoring plan

Subtask 2.2.7: Monitoring Implementation

Once the Monitoring Plan is finalized, monitoring at each location at a determined frequency will be performed, to assess impacts and changes in all significant sources. A set of criteria will be developed to define when concentrations are above typical ambient concentrations. If the observed concentration is above the ambient concentration, an investigation will begin.

Deliverables:

- Figures and tables summarizing collected data

Subtask 2.2.8: Manage Salt and Nutrient Loadings on a Sustainable Basis

Best management practices and other methods to reduce and/or maintain salt and nutrient loadings—such as disposal, reducing methods, or projects to beneficially reuse highly concentrated brine or salts and nutrients within or near the Antelope Valley will be identified and the most appropriate methods will be summarized as new projects in the IRWM Plan. Project reports will be developed and included in Appendix F of the IRWM Plan for high-priority projects proposed to manage salts and nutrients in the basin.

Deliverables:

- Memorandum describing most appropriate management strategies
- Project reports for high-priority projects

Subtask 2.2.9: Antidegradation Analysis

The projects included in the SMP (identified in Subtask 2.2.8) will be shown to satisfy the requirements of the State Antidegradation Policy (Resolution No. 68-16).

Deliverables:

- Memorandum on antidegradation analysis

Subtask 2.2.10: Salt/Nutrient Management Plan Appendix

A Salt/Nutrient Management Plan Appendix to the IRWM Plan will be developed to summarize all efforts of this task and the next steps in the development of the basin objectives for key constituents as well as best practices designed to maintain water quality in the future. The SMP will be based on the outline that was developed in the Salt/Nutrient Management Plan Committee meetings. The information contained within the Appendix will also be presented to the AVIRWMP Stakeholder Group. Findings and recommendations from the SMP will be incorporated into the relevant section of the IRWM Plan.

Deliverables:

- Draft Salt/Nutrient Management Plan Appendix to the IRWM Plan
- Final Salt/Nutrient Management Plan Appendix to the IRWM Plan

Task 2.3: Integrated Flood Management Plan

The Antelope Valley Groundwater Basin is a closed basin without a natural outlet for storm runoff (LADPW 1987). Numerous streams originating in the mountains surrounding the Antelope Valley Region carry highly erodible soils onto the Antelope Valley Region floor, forming large alluvial river washes. Streams then meander across the alluvial fans in ill-defined paths that are subject to change. Precipitation ranges on average less than 10 inches per year on the Antelope Valley Region floor, to more than 12 inches in the surrounding mountains (Rantz, 1969 as cited in USGS 1995). Portions of the Antelope Valley Region floor are subject to flooding due to uncontrolled runoff from these nearby foothills (City of Lancaster 1997), and this situation is aggravated by lack of proper drainage facilities and defined flood channels in the Antelope Valley Region. Heavy discharge and flooding is also prevalent along Big Rock Creek, Little Rock Creek, Amargosa Creek, and Anaverde Creek. Heavy rainfall and summer thunderstorms increase the potential for flash floods. Flooding events also have some positive impacts. Edwards Air Force Base benefits from periodic flooding because the deposition of sediments provides a smooth surface on the dry lake bed, making it more suitable for emergency landings.

The objective of this task is to develop an Integrated Flood Management Plan that prioritizes opportunities to capture and utilize stormwater for groundwater recharge rather than simply mitigating flooding impacts. Due to the relatively underdeveloped status of the Antelope Valley, the Integrated Flood Management Plan (FMP) will be able to incorporate the “lessons learned” from previous flood control events in other areas in Los Angeles County.

The development of the FMP will be performed under the guidance of a Flood Management Committee formed from the AVIRWMP Stakeholder Group and AVRWMG. This group will be tasked with both assisting with the technical development of a FMP and also providing recommendations for future flood management governance and funding strategies.

The FMP will ultimately be added to the IRWM Plan as an appendix and the necessary sections of the IRWM Plan will be updated as applicable.

Subtask 2.3.1: Catalog and Review Existing Flood Management Plans

A list of all existing flood management plans in the Region will be assembled and reviewed. Information about applicability, breadth and currency will be documented. This includes prior planning documents prepared by Los Angeles County DPW, the cities of Lancaster and Palmdale, Kern County, and other relevant entities. Existing surface water flow/flood prediction models will also be cataloged and reviewed as part of this task. In addition, any identified flood control projects in both near-term and long-term phases will be identified.

Deliverables:

- Draft and final matrix of existing flood management plans and projects in planning phase

Subtask 2.3.2: Document Flood Protection Needs

Using the review of existing flood management plans as a starting point, the AVRWMG will work with the communities in the Region to understand and document existing flood protection needs. Personal interviews will be conducted with staff from municipalities and other local agencies/groups in order to understand flood protection needs that may not be adequately addressed in existing plans. This task will be combined with Task 2-1, which focuses on DAC flood control needs.

Deliverables:

- Draft and final memo of flood protection needs

Subtask 2.3.3: Develop Methodology to Catalog and Prioritize Flood Projects

Working with the AVIRWM Plan Stakeholders, the AVRWMG will develop a methodology to catalog and prioritize flood protection projects to be considered for the AVIRWM Plan. This methodology will follow the methodologies used for ranking other IRWM projects but will also consider issues specific to flood management such as flood frequency and flood severity and give highest priority to projects that provide flood protection while recharging groundwater, protecting water quality, and enhancing habitat.

Deliverables:

- Draft and final memo of methodology to prioritize flood projects

Subtask 2.3.4: Develop a Regional Vision for Multi-Benefit Flood Protection

Working with the AVIRWMP Stakeholders, the AVRWMG will develop a regional vision for what, how, and where multi-benefit flood project projects shall be developed in response to the needs and opportunities identified in Tasks 2.3.1, 2.3.2, and 2.3.3. This vision shall include examples from projects local to the Antelope Valley and in regions with similar features elsewhere in Southern California. Locations where habitat restoration had been identified and improvements to groundwater recharge will be researched and identified. The analysis will also take into account areas that benefit and need flood water, such as Edwards Air Force Base.

This task will also be used to identify and develop potential institutional arrangements that would form the basis for regional coordinated flood planning as well as provide a funding stream for projects identified through this and ongoing flood planning efforts. A proposed Flood Management Committee of the AVIRWM Plan Stakeholders will meet to discuss the benefits and drawbacks of various mechanisms and arrive at a recommendation to be provided to the broader AVIRWMP Stakeholder Group as well as relevant governing boards (e.g. City Councils,

Los Angeles County Board of Supervisors, Kern County Board of Supervisors, etc.) who currently have some level of responsibility for flood management activities.

Deliverables:

- Draft and final vision for multi-benefit flood protection, project opportunities and institutional and funding arrangements

Subtask 2.3.5: Facilitate Regional Participation in NFIP CRS

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions. The three goals of the CRS are:

1. reduce flood losses,
2. facilitate accurate insurance rating, and
3. promote the awareness of flood insurance.

To promote this program, a memorandum will be developed that describes what residents can do to become involved in the CRS.

Deliverables:

- Draft and final memorandum promoting involvement in CRS

Subtask 2.3.6: Facilitate Coordination Between Flood Protection Efforts and Stormwater Quality Effort

As part of the IRWM Plan Update, the AVRWMG will assess opportunities for coordination of flood control efforts and stormwater quality efforts, particularly with regard to low-impact development (LID) features that can retain and infiltrate stormwater runoff at the property or neighborhood scales. The extent to which these practices can be employed and expanded upon to assist with flood protection efforts will be evaluated within the IRWM Plan Update.

Deliverables:

- Draft and final memo on coordination between flood protection and stormwater quality

Subtask 2.3.7: Compile Integrated Flood Management Plan

The AVRWMG will compile the work from all subtasks above into a comprehensive Integrated Flood Management Plan for the Antelope Valley. This comprehensive plan will lay out the current state of the Valley's flood protection facilities, local stakeholder's vision for integrated

flood planning, recommendations for participating in CRS and implementing various State programs and recommendations for institutional and funding arrangements to oversee implementation of the FMP. This comprehensive plan will assist DWR with development of the FloodSAFE Strategic Plan (<http://www.water.ca.gov/floodsafe/plan/>).

Deliverables:

- Draft Integrated Flood Management Plan Appendix to IRWM Plan
- Final Integrated Flood Management Plan Appendix to IRWM Plan

Task 3: IRWM Plan Update

The objective of this task is to update the 2007 IRWM to reflect Task 2 findings, address any changes since 2007, and bring it in line with the latest State's IRWM Plan standards.

Task 3.1: Update Goals and Objectives

As the technical evaluations move forward, the AVRWMG will refine the objectives (listed in Table 3) to guide the region. The AVRWMG will utilize meetings with the Advisory Team, AVIRWM Plan Stakeholder Group and DAC representatives under Task 1 to discuss and refine IRWM Plan goals and objectives.

Deliverables:

- Draft and final IRWM Plan objectives

Task 3.2: Evaluate and Report Plan Performance

The existing IRWM Plan includes Section 7 which describes the evaluation criteria and process that Stakeholders used to rank and prioritize IRWM projects, and presents those projects that Stakeholders designated as high priority. However, this section did not address specifically how the RWMG would evaluate and report performance on implementing the IRWMP. A mechanism will be developed to evaluate and report IRWM Plan performance. This mechanism will contain criteria to be used to evaluate the progress of implementation projects in meeting the IRWM Plan objectives and the process that will link project completion to IRWM Plan implementation. This will ensure that the AVRWMG is efficiently making progress towards meeting the objectives in the IRWM Plan, the AVRWMG is implementing projects listed in the IRWM Plan, and each project in the IRWM Plan is monitored to comply with all applicable rules, laws and permit requirements. Updates to the IRWM Plan will:

- Explain whom or what group within the AVRWMG will be responsible for IRWM implementation evaluation;
- List the frequency of evaluating the AVRWMG's performance at implementing projects in the IRWM Plan;

- Explain how IRWM implementation will be tracked on the Antelope Valley Water Plan website (www.avwaterplan.com);
- Discuss how findings from project-specific monitoring efforts will be used to improve the AVRWMG's ability to implement future projects in the IRWM Plan;

The AVRWMG will utilize meetings of the Planning Partners, A-Team Meetings, Stakeholder Meetings, and DAC outreach efforts under Task 1 to discuss the mechanism for Plan performance monitoring and reporting.

Deliverables:

- Draft and final IRWM Plan Update evaluation and report plan performance component

Task 3.3: Climate Change Analysis

The IRWM Plan does not currently include a discussion on the potential for and impacts of climate change in the Antelope Valley. A climate change analysis will be conducted based on DWR's forthcoming climate change guidelines. The scope of work anticipates preparation of an evaluation of the adaptability of the water management strategy and systems in the region to climate change, including water supply, wastewater, and flood control. It also anticipates developing regional mitigation efforts to reduce the region's carbon footprint. Further, the IRWM Plan Update will contain a gross greenhouse gas (GHG) inventory of the water management systems in the region, to help define the region's baseline. Project-level GHG emissions assessments will be determined from California Environmental Quality Act (CEQA) and California Air Resources Board (CARB) documentation, where available. GHG emissions for all other regional facilities will be estimates based on industry standards. This GHG Inventory will provide an understanding of the region baseline and in selecting IRWM projects that reduce regional emissions. Along with the reduction of GHG emissions, the region will also include other mitigation efforts to combat the effects of climate change.

Deliverables:

- Draft and final climate change component for the IRWM Plan Update

Task 3.4: Refine Implementation Framework

The AVRWMG will refine the implementation framework included in the IRWM Plan. These steps may focus on the following long-term activities:

- Implementation of priority projects that support the region's IRWM goals and objectives

- Reevaluating the long-term governance and funding structure detailed in the IRWM Plan to guide the ongoing development and implementation of the region's IRWM Plan Update
- Developing a revised project prioritization structure that reflects the new technical information obtained from the climate change analysis, SMP, and FMP.
- Establishing a formal procedure for adding and reprioritizing projects in the IRWM Plan in the future
- Revisiting the needs assessment in the IRWM Plan and developing recommendations for addressing existing technical deficiencies in the region

Deliverables:

- Draft implementation framework for the IRWM Plan Update
- Final implementation framework for the IRWM Plan Update

Task 3.5: Prepare IRWM Plan Update

The AVRWMG will prepare a Draft IRWM Plan Update for review and approval by the Planning Partners and other regional stakeholders. The Update will include:

- Updated sections of the IRWM Plan reflecting edits to the plan as a result of climate change analysis, SMP, FMP and DAC outreach; and new two appendices to the IRWM Plan that will function as the stand alone SMP and FMP.
- Refined IRWM goals and objectives, plan metrics, and implementation framework.
- Project reports for new high priority projects developed as a result of the climate change analysis and both SMP and FMP efforts added to Appendix F of the IRWM Plan

Based on the comments received from the Planning Partners, Stakeholder Group and general public, the AVRWMG will prepare a Final IRWM Plan Update. Following one round of revisions based on final comments, the AVRWMG will provide the IRWM Plan Update for presentation to the AVRWMG governing bodies.

All AVRWMG members will adopt the IRWM Plan Update within two years of Planning Grant contract execution.

Deliverables:

- Draft IRWM Plan Update
- Final IRWM Plan Update

Task 4: Project Management/Administration

Task 4.1: Progress Monitoring, Reporting, Invoicing, and Final Report

As this work plan is executed, progress will be monitored and reported by both consultants and agency staff performing work, as well as agency staff overseeing the activities to ensure the timely delivery of deliverables on budget. This includes monthly reports and invoices from consultants, monthly reports from agency staff on in-kind contributions, quarterly reports that will be provided to DWR (with a summary provided to the Stakeholder Group), and a final report to DWR. As shown in Attachment 4, administrative costs total approximately 3.9% of the overall budget.

Deliverables:

- Monthly consultant progress reports and invoices
- Monthly progress reports from agencies to track in-kind services
- Quarterly reports to DWR
- Final report to DWR

III. Program Preferences

Table 7 and **Table 8** state to what extent the proposed Work Plan meet the Program Preferences and Statewide Priorities, respectively.

Table 7: Program Preferences Included in the Work Plan

PROGRAM PREFERENCE	TO WHAT EXTENT WORK PLAN MEETS PROGRAM PREFERENCE
Include regional projects or programs	The Work Plan includes development of two regional programs: a salt/nutrient management program and an integrated flood management program. The Work Plan also contemplates the preparation of project reports for new high priority projects recommended by these programs and the climate change analysis.
Effectively integrate water management programs and projects within a hydrologic region identified in the California Water Plan; the Regional Water Quality Control Board (RWQCB) region or subdivision; or other region or sub-region specifically identified by DWR	<p>The two regional programs to be developed as part of the Work Plan will support integrated water management programs within Antelope Valley basin:</p> <ul style="list-style-type: none">• The flood management plan will focus on identifying opportunities to capture and utilize stormwater for groundwater recharge and incorporating habitat and recreational elements rather than simply mitigating flooding impacts – integrating water supply and flood management programs.• The salt/nutrient management plan is a critical component of enabling groundwater banking in the Antelope Valley with imported water, stormwater and recycled water, and regionwide use of recycled water – integrating water supply, water quality and flood management programs.
Effectively resolve significant water-related conflicts within or between regions	The Work Plan will not directly resolve any conflict; however, the Work Plan constitutes the next logical set of activities in the IRWM implementation, which is aimed at resolving conflicts within the Antelope Valley Region.
Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program	<p>The Work Plan constitutes the next logical set of activities in the IRWM implementation, which is aimed at decreasing the Antelope Valley reliance on water from the State Water Project, thus helping the CALFED Bay-Delta Program realize one of their objectives.</p> <p>Specifically, both the flood management and salt/nutrient management plans would support the concept of maximizing the use of local water supplies (including stormwater and recycled water beneficial reuse) to supplement imported water supplies. Recycled water beneficial reuse alone could contribute 40,000 AFY of new water supplies.</p>
Address critical water supply or water quality needs of disadvantaged communities within the region	The Work Plan will not directly address critical water supply or water quality needs of DACs within the region; however, the Work Plan will further evaluate these needs and potential ways to address them as described in Section II.

Antelope Valley Integrated Regional Water Management
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PROGRAM PREFERENCE	TO WHAT EXTENT WORK PLAN MEETS PROGRAM PREFERENCE
Effectively integrate water management with land use planning	The development of both the flood management and salt/nutrient management plans will integrate land use planning as described in Section II.

Table 8: Statewide Priorities Included in the Work Plan

STATEWIDE PRIORITIES	TO WHAT EXTENT WORK PLAN MEETS PRIORITIES
Drought Preparedness	<p>The Work Plan includes the development of adaptation strategies to address the impacts of climate change. Due to the region's reliance on imported water, one of the critical strategies for the region will be focused efforts to capture and store these water supplies due to the uncertainty of their availability as a result of climate change. These types of projects to store water will undoubtedly provide the equal benefit to the region of drought preparedness.</p> <p>In addition, both the flood management and salt/nutrient management plans would support the concept of maximizing the use of local water supplies (including stormwater and recycled water – a local, drought-proof supply- beneficial reuse) to supplement imported water supplies. Recycled water beneficial reuse alone could contribute 40,000 AFY of new water supplies.</p>
Use and Reuse Water More Efficiently	Part of the objective of the flood management plan is to be able to better utilize stormwater for groundwater recharge. The stormwater water will also be used at the Edwards Air Force Base to “resurface” and naturally restore the elevation of the dry lake beds which are used for emergency landings.
Climate Change Response Actions	<p>As part of the update to the Work Plan, a climate change analysis will be conducted to confirm climate change response actions that Antelope Valley stakeholders should undertake.</p> <p>In addition, the salt/nutrient management plan included in the Work Plan is a critical element in the evaluation and implementation of groundwater banking in the Antelope Valley (including banking of <u>local</u> supplies), which is one of the major climate change response action that Antelope Valley is currently undertaking.</p>
Expand Environmental Stewardship	The salt/nutrient management plan and the flood management plan included in the Work Plan will expand environmental stewardship in Antelope Valley by improving management of water quality and supply in the local watershed.

Antelope Valley Integrated Regional Water Management
Planning Grant Proposal

STATEWIDE PRIORITIES	TO WHAT EXTENT WORK PLAN MEETS PRIORITIES
Practice Integrated Flood Management	The objective of the flood management plan included in the Work Plan is to develop an integrated flood management plan that focuses on identifying opportunities to capture and utilize stormwater for groundwater recharge rather than simply mitigating flooding impacts.
Protect Surface Water and Groundwater Quality	The development of a salt/nutrient management plan is aimed at long-term protection of groundwater quality in the Antelope Valley Region.
Improve Tribal Water and Natural Resources	Not Applicable; there are no Reservations or Rancherias located in the Antelope Valley Region
Ensure Equitable Distribution of Benefits	Outreach programs focused at DACs, as well as communities that have a slightly higher income so they are not technically DACs, and underrepresented communities will continue DAC's water supply, water quality and flooding issues is aimed at ensuring equitable distribution of benefits.